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ABSTRACT

The students who entered college in the fall of 1985 will have working careers spanning the years from 2001 to 2039 and live in retirement from 2039 to 2053. In the current preoccupation with preparing graduates of 2001 to get jobs using the technology of 1985, seldom is a distinction made between what makes life possible and what makes life worth living. Mistaken assumptions that seem to be commonly accepted include: the purpose of education for society is to contribute to the nation's economy and to the gross national product; the most urgent need in the curriculum is more science, math, and computing; and the arts are essentially frills to be offered as time allows. The failure of the National Commission on Excellence in Education to include the arts among its "Five New Basics" reflects the commission's obsession with the computer and its view of children in terms of their future roles in the marketplace and their potential contributions to international competition. Three goals developed by Music Educators National Conference for serving the needs of the class of 2001 include: (1) By 1990, every student, K-12, shall have access to music instruction in the schools, with the curriculum of every elementary and secondary school, public and private, including a balanced, comprehensive, and sequential program of music instruction taught by a qualified teacher; (2) By 1990, every high school shall require at least one unit of credit in the arts for graduation (the arts being defined as music, visual arts, theater, and dance); (3) By 1990, every college university shall require at least one unit of credit in the arts for admission. (LH)

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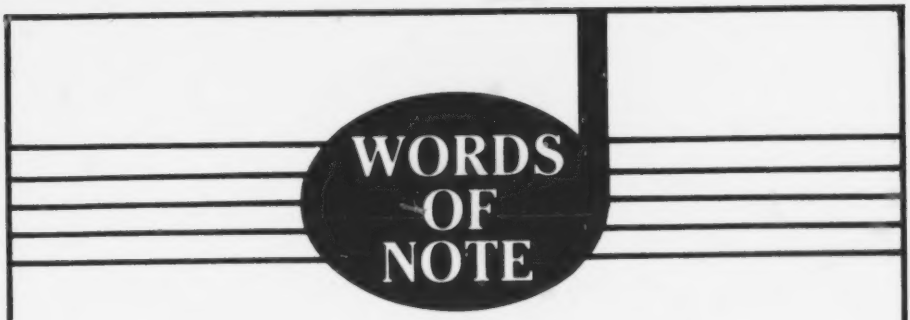

THE CLASS OF 2001

Coping with the Computer Bandwagon

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Let me propose something to think about: The students who enter the first grade in your school system this fall, in 1985, will graduate from college in the year 2001! They'll finish high school in 1997. If they work until age 65, they'll retire in 2044. Let's suppose that they do go to college but that they retire at age 60. We know that their life expectancy is 74 years. This means that their working careers will span the years from 2001 to 2039 and that they'll live in retirement from 2039 to 2053.

You and I and the rest of the nation's teachers have the responsibility for preparing these students to live in that world of 2001 to 2053. Let's consider for a moment some of the implications of this responsibility. What sort of education do people need to prepare them for the world of 2001 to 2053? How do we decide? What criteria do we use? To whom do we listen?

For two years now our nation has been embroiled in a great debate on the topic of excellence in education. We've heard lengthy discussions about curriculum, graduation requirements, the length of the school day, student achievement tests, teacher competency tests, teachers' salaries, merit pay, career ladders, college entrance requirements, teacher education and certification, and so forth.

These topics have been discussed in every forum and in every state. The Education Commission of the States at one point identified more than 175 task forces at the state level working simultaneously, and there's been a flood of reports and recommendations from every imaginable source. But where the rising tide of mediocrity has been most evident is in the quality of the suggestions that have been offered and in the quality of the thinking underlying those suggestions.

It seems to me that the most striking characteristic of this so-called debate is that there has really been very little debate at all. Oh, there has been some discussion about means, but very little about ends. An astonishing number of people seem perfectly willing to accept without question the assumptions of others on some very basic points. We're apparently content to project casually into the future the fads of today, which always masquerade as the trends of tomorrow. No one seems to be interested in distinguishing between that which makes life possible and that which makes life worth living. We're preoccupied with preparing the graduates of 2001 to get jobs using the technology of 1985.

Don't forget that every suggestion that's offered and every decision that's made is based on certain underlying assumptions, whether or not we articulate them or even think about them. Some of the assumptions which seem to be commonly accepted, but which in my opinion are flagrantly in error, include these: (1) that the purpose of education for the individual is to help him or her to get a job; (2) that the purpose of education for society is to contribute to the nation's economy and to the gross national product; (3) that the most urgent need in the curriculum is for more science, math, and computing; and (4) (and this *is* an assumption in some quarters) that the arts are essentially frills to be offered if time allows.

No one knows what it will take to get a job in 2001, although a lot of people are behaving as though they do. But "What will it take to get a job?" is not the question we ought to be asking. The question we ought to be asking is "What will it take to live a rich and rewarding and satisfying life from 2001 to 2053?" That's the most important question, and getting a job is only a part of the answer.

American education in recent months has taken an unmistakable turn toward the narrowly technical and away from the broader values that have traditionally served as its foundation. Perhaps this is best seen in our current obsession with the computer. From one end of the nation to the other schools are scrambling to buy more computers, to make greater use of the computer in their classrooms, and to achieve something called computer literacy, which everyone is in favor of but no one knows the meaning of.

There's no question but that every student should learn certain basic applications of computing in school. I use my own computer almost every day and I couldn't function without it. But much

of the current rhetoric concerning computing in the schools is exaggerated, naive, or simply wrong. And some of the steps being taken purportedly to improve the quality of education, particularly with respect to science, math, and computing, are, in fact, having precisely the opposite effect by reducing students' access to the arts.

A generous share of the blame for this situation must rest with the National Commission on Excellence in Education. The Commission pointed out in *A Nation at Risk* that students should study the fine and performing arts, but it failed to include the arts among its so-called "Five New Basics." At the same time it bestowed that lofty status on computing.

The National Commission on Excellence in Education is the prime offender in viewing education as being important largely for its contribution to the nation's economic welfare. It sees children in terms of their future roles in the marketplace and their potential contributions to international economic competition. It seems to suggest that the most glorious achievements of human civilization, which are represented by the arts and humanities, are somehow peripheral to the more serious business of manufacturing consumer goods.

By contrast, thoughtful educators and laymen alike consider that the purpose of education should be the pursuit of truth and beauty, and the development of human capacities, and the improvement of the quality of life. Should the curriculum we offer our young people emphasize technology at the expense of the humanities? Should it be based on science, math, and computing, with the arts being encouraged if time allows? None of the nation's most distinguished educational thinkers believes so. Ernest Boyer doesn't. John Goodlad doesn't. Neither does Mortimer Adler, nor the College Board. Even the Council for Basic Education doesn't think so. Each of these authors or groups is firmly committed to the arts as equal partners among the most basic disciplines of the curriculum. It's the National Commission on Excellence in Education that's out of step on this issue, and when you look at the quality of the work that went into these various reports there certainly can be no question about who's right. And it's not the Commission!

It's one of the great ironies of our time that while the arts are needed today more desperately than ever before, they are also more likely to be in jeopardy in many schools. At the secondary level, fewer students are able to elect arts courses because of

increased requirements for graduation. At the elementary level, a willingness to lay off art and music specialists as a knee-jerk response to fiscal difficulties, coupled with an unwillingness to require the ability to teach these subjects as a condition of employment for classroom teachers, have combined to push the arts into the curricular background.

Paradoxically, the response of the education profession to the age of the computer thus far has consisted largely of failures. First, we have failed to develop a variety of high-quality software for instructional purposes. Most of what's now available is trivial, it's entertaining rather than instructional, or it's irrelevant to the major purposes of education. Second, we have failed to develop useful criteria for the evaluation of software. Superficial and uncritical reviews have permitted many of the serious shortcomings of current software to pass unnoticed. Third, we have failed to recognize and question the assumptions that underlie our use of computers in schools. Again, we seem to accept without thinking any claim whatever concerning the need for computers, or how they should be used, or the extent to which we should devote our limited resources to them. Questions that would be asked routinely under other circumstances are somehow regarded as unnecessary or even boorish in our rush to install the computer as the newest educational panacea.

Very little of the computer software available today is part of a coordinated curriculum in any field. Consequently, students learn to seek out and retrieve bits of information from a data bank, but they often have no idea how any of the pieces fit together in a meaningful context. They do not develop the important ability to synthesize, to integrate, and to construct patterns of meaning. Much of this learning is taking place at home, and projections indicate that parents will soon be spending ten times as much as schools for computer materials. This process, by which education is being taken out of the hands of the schools, further diminishes the prospects for improved curricular coordination.

"High-tech" as a solution to the nation's problems is largely an illusion. Certainly we must maintain our strong technological capability, but high-tech is being extravagantly oversold as a solution to our problems of unemployment and an unfavorable balance of payments. Figures from the Bureau of Labor Statistics show that the number of new jobs for building custodians between 1982 and 1995 will exceed the number of new jobs for all

categories of computer personnel and technicians combined by 147,000.

Other job categories in which the number of new positions will exceed those for computer personnel and technicians include waiters and waitresses, cashiers, secretaries, office clerks, and registered nurses. Collectively there will be 7.6 times as many new jobs in these fields as in computing! What will happen when large numbers of young people trained to believe that their futures lie with the computer discover that most of the jobs available are for unskilled workers?

The most valuable skills in tomorrow's world will still be the ability to think clearly and the ability to communicate effectively. Yet these are precisely the abilities most vulnerable to deterioration in the electronic age. Excessive exposure to electronic communications undermines the development of these skills, dulls our senses, and reduces our awareness of our own shortcomings in communicating with our fellow human beings.

Young people growing up need as much direct experience as possible with the world itself. Computerized technology can never substitute for this experience. Simulation is acceptable only when the reality itself is inaccessible. The full effects of a generation of youth sitting mindlessly before a computer monitor or a videogame are not yet clear, but it is already evident that special efforts will be necessary in the future to humanize and personalize our technological environment and to restore the warmth and sensitivity which are found only in human relationships, which are so necessary to our emotional health, and which are developed so effectively by the arts.

The fact is that what young people need most urgently to function effectively in the age of technology is a solid, well-balanced education based on English, mathematics, science, social studies, languages, and the arts. This is the preparation that will make possible a rich and rewarding and satisfying life between 2001 and 2053. This is the preparation that will provide the background for choosing from among the careers that will be available to the class of 2001. This is the preparation that will enable tomorrow's adults to switch to other careers, including the many careers that won't even exist when they graduate from high school or college. This is the preparation that employers value because they know that computing skills can be taught best as they're needed, and only a solid background in these basic

subjects can provide the breadth and flexibility that employers look for in employees.

What can you and I do right now to serve the needs of the class of 2001? Last summer the MENC National Executive Board adopted three goals for MENC for 1990:

1. By 1990, every student, K-12, shall have access to music instruction in school. The curriculum of every elementary and secondary school, public or private, shall include a balanced, comprehensive, and sequential program of music instruction taught by qualified teachers. At the secondary level, every student shall have an opportunity to elect a course in music each year without prerequisites and without conflicts with required courses.

2. By 1990, every high school shall require at least one . . . unit of credit in the arts for graduation. The arts shall be defined as music, visual arts, theater, and dance. The credit may be in a course devoted to one of the arts or to two or more in combination.

3. By 1990, every college and university shall require at least one . . . unit of credit in the arts for admission. The arts shall be defined as music, visual arts, theater, and dance. The credit may be in a course devoted to one of the arts or to two or more in combination.

How do we go about implementing these goals? By working with the people who make the decisions. First we have to determine who has the authority to implement each of these proposals. Then we have to devise a strategic plan for presenting our case. Who will do it? When? Where? How? What information should we provide? How should we follow up? If there's more than one level at which the implementation could take place, we need to decide which level would be most advantageous. But we need to be ready later to try the alternatives, if necessary.

In some places some of these goals have been implemented already. But more often there's a lot yet to be done. All of us, together with all of the friends and allies we can enlist, will have to bring to bear all of the pressure we can muster in all of the diverse arenas where these decisions are made.

Meanwhile, let's not distort the curriculum out of panic or mindlessness. In one state I visited recently the legislature is currently providing a bounty of $50 to every school district for every secondary student who enrolls in an advanced course in science or math. That's an outrageous and inexcusable intrusion

into the educational process. It represents the embodiment of superficial and simplistic thinking as public policy. It's especially insidious because it results in strong pressures on students from counselors and administrators, and it's difficult to combat because it lacks the force of an explicit requirement.

Let's think carefully before we stop buying French horns and bassoons in order to buy more computers. Anyone who has kept up with the recent periodical literature assessing the state of computer education knows that there is virtually a unanimous consensus that the outlook is bleak. What the experts are telling us is that not only do we lack good software but our schools are being swept up in a tidal wave of technology without any idea of how to make wise use of it.

Under these circumstances it might seem prudent to slow down somewhat in our reckless frenzy to buy computers and place them in front of kids. Curiously, the message we receive from those who are less well informed, and this includes leaders in Washington, in our state capitals, and in our neighborhood schools, is precisely the opposite: full speed ahead.

It reminds one of the mad rush to buy audiovisual equipment for schools in the 1960s. The federal government was putting up most of the money, the manufacturers making the equipment were promoting it extravagantly, and any school that wasn't stocking up on 8mm projectors, language masters, TV sets, and all the rest simply wasn't "with it." But only a fraction of this equipment was ever used at all. Some of it is still gathering dust in school closets and basements. One obvious reason was the lack of useful software, but there was also a more fundamental reason: most of it wasn't conceived for educational purposes and it never fit into any broad educational scheme.

We all know that computers are everywhere today. That's because they have many uses. And the computer manufacturers are taking advantage of this visibility to make the average person feel that he has to become "computer-literate" or he's just going to be left behind. They're aided in this effort by the media, who need something to write about every day regardless of whether it's true or even whether it makes sense. But the idea is nonsense. Again, if we listen to the experts we're told to stop worrying. The computer revolution hasn't passed anyone by yet. It hasn't even caught up to us. If you can't use today's computers, all you have to do is wait for tomorrow's.

Consider the automobile. Automobiles have had an immense

impact on our society even though most people have no technical knowledge of them whatever. In fact, the reason they have been able to exert such influence is precisely because no technical knowledge is necessary in order to use them. In the early days of the automobile this wasn't true. They had to be started by cranking. They had to be primed and choked by hand. Shifting gears was laborious. Oil had to be changed daily. Driving a car took time, study, and hard work. This is exactly where we are today in the evolution of the computer. But through the years cars became more and more "user-friendly." So will computers. The computers of tomorrow will be as easy to use as the automobiles of today.

Computers can be extremely useful in education. Computers have the potential to revolutionize education. That's no exaggeration; that's true. But they will never do it in the ways we're using them now. They will never do it if we merely rewrite our current textbooks and workbooks as series of exercises, put them on floppy disks, and call them educational learning systems. That's not taking advantage of the vast, unique capabilities of the computer. That's merely a parody of educational computing.

The computer revolution in education won't begin until we rethink what we want education to be. Only then can we clarify our goals and bring them into focus. Only then can we know how to use the computer. Only then can we know what we want in educational software. At the very least we must have software that is genuinely interactive and genuinely individualized. There are hundreds of ways to misuse computers in education and only a few ways to use them properly.

Computer programmers don't understand what educators need. And they won't until we take the initiative to explain our needs to them. During the educational media fad of the 1960s we educators never told the engineers and manufacturers what equipment we needed. We stood by and waited to see what came on the market and then tried to figure out how to use it. That's exactly the reverse of what should happen. It turned out that nothing much that's really useful was developed. And nothing much that's really useful will be developed now unless we act. It simply won't happen.

We have to decide what we need and then ask for it. Most of the capable and creative computer programmers know nothing about children or education or music. Are these the people to whom we

want to entrust the future of music education in the computer age? We must become involved, not because computers will be a threat if we don't, but because they can solve some of our most basic problems if we do.

Until the nineteenth century men and women took pride in the artistic merit of the things that they created, even the humble things created for everyday use. But not today. Today no one has time for craftsmanship. Artistic merit has been continuously devalued since the onset of the industrial revolution. But by using computers properly we can once again have time for our most truly human activities. They can make it possible for us to incorporate art once again into everyday life. They can bring us closer to an appreciation of our own creative and intellectual abilities.

When we learn to use the computer properly we can devote more of our energy to the preservation of our humanity, to the creation of things of beauty, and to the improvement of society. This won't happen, though, if we're obsessed with the technology and blind to its human implications. And the evidence thus far suggests that this is exactly the difficulty we're having in education.

In the fifteenth century the invention of printing from movable type caused a near panic among teachers, who feared that this new technology would cost them their jobs. After all, why would anyone need a teacher if every student could have his own book? But the printing press didn't eliminate the need for teachers, and neither will the computer. What the computer can eliminate is the drudgery and the repetition in our jobs.

The computer will free teachers to help students deal with the real problems they face: loneliness, feelings of inferiority, lack of self-confidence, social problems, and so forth. The only jobs that the computer will eliminate are those that have already been dehumanized. Any teacher who can be replaced by a computer should be.

The class of 2001 literally ushers in a new era. Let's be certain that their education will serve them well in the twenty-first century. Even though we can't teach them everything that they'll need to know to function effectively until 2053, we can give them the means to live rich, rewarding, and satisfying lives. But we can't do that by pretending that the technology of today will be the technology of tomorrow. We can do it only by acquainting our

young people with the supreme achievements of civilization thus far, and these include the works of Mozart, Beethoven, and Copland as well as the works of Galileo, Newton, and Einstein.

The music of Bach, for example, is far more popular this year, precisely three hundred years after he was born, than it was when it was written. Bach's music will survive through 2053, and well beyond that. Of all the things the class of 2001 will learn, what else will be equally enduring? What else will be equally satisfying? What else tells us more about human culture itself?

We certainly don't need to apologize for teaching a subject that doesn't help our students get better jobs; our subject helps them live better lives. The people who ought to apologize are those bureaucrats who think that every student should pursue a rigid, technologically oriented curriculum, and some day that will be obvious to everyone.

We don't need to be embarrassed because our subject doesn't lend itself easily to paper-and-pencil testing; our subject brings joy to the lives of our students. The people who ought to be embarrassed are those principals and superintendents who are willing to eliminate the arts and who don't care how students feel about coming to school as long as their SAT scores are acceptable.

We don't need to feel self-conscious because our subject isn't presently receiving as much popular attention as some others; much of this attention is the direct result of our colleagues in other disciplines doing a poor job. The people who ought to feel self-conscious are those state departments of education and legislatures who mandate every detail of education but omit the subjects that best reflect humanitity itself.

The arts exhalt the human spirit. They transform the human experience. They enhance the quality of life as nothing else can. They're the lifeblood that flows through the veins of civilization. To deny the arts a role in the schools is to deny a role for civilization itself.

People often speak about bandwagons in education, and it's true that educational change often occurs through a bandwagon effect. I like the symbolism of that metaphor because it reminds me of one of the most important obligations that you and I have to the class of 2001. It's our responsibility to those young people to ensure that the computer bandwagon coming down the road, and whatever other bandwagons come along behind it, do indeed

have a band on board. But that's not all. We've got to be certain that there's not only a band on board but also an orchestra, and a chorus, and a general music class as well.

A Selected List of MENC Publications

Eclectic Curriculum in American Music Education: Contributions of Dalcroze, Kodály, and Orff. Beth Landis and Polly Carder. Delineates principles and teaching procedures of three major European musician-educators. 1972. 147 pages. $8.00(M); $10.00.

History of Public School Music in the United States. Edward Bailey Birge. No music library is complete without this classic! Traces the history of music education. An exact reprinting of the 1937 edition. 1985. 323 pages. $7.50(M); $9.00.

Music and Music Education: Data and Information. Tables and charts display the latest data from a variety of sources. 1984. 63 pages. $12.00(M); $14.50.

The Future of Musical Education in America. Published by the Eastman School of Music Press of the University of Rochester, New York. Proceedings of the July 1983 conference cosponsored by Eastman and MENC. Full texts of all speeches. 1984. 90 pages. $9.95(M); $12.50.

Study of Music in the Elementary School—A Conceptual Approach. Prepared by the MENC Elementary Commission: Flavis Evenson, chairperson; Charles L. Gary, editor. A guide for teaching music through the conceptual approach. 1967. 182 pages. $5.50(M); $7.00.

Becoming Human through Music. Explore different musical cultures as you take an armchair tour of the world! Complete papers from the Wesleyan Symposium on the Perspectives of Social Anthropology in the Teaching and Learning of Music, Wesleyan University, Middletown, Connecticut. 1985. 134 pages. $12.00(M); $14.50.

Documentary Report of the Ann Arbor Symposium: Applications of Psychology to the Teaching and Learning of Music. Sponsored by MENC and the University of Michigan and supported by the Presser Foundation. Twenty-four eminent music educators and psychologists relate psychology to improved classroom practices. 1981. 372 pages. $15.00(M); $18.75.

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